



Trans-Lake Washington Project

Lake Washington Navigational Study

A Review of Navigational Issues for Bridge Design

January 10, 2001



Washington State
Department of Transportation



Trans-Lake Washington Project

Navigational Study Objectives

- Identify Lake Washington area navigational characteristics
 - navigational routes
 - physical dimensions of passage points
 - vessel operations
- Document navigational features of current bridge
 - drawspan
 - east and west high rise structures
- Assess new bridge design options
- Initiate process to revise navigation features

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Existing Vessel Traffic

- Most Use is Recreational
 - One vessel currently uses drawspan
 - Other “rogue” vessels have required drawspan openings
- Commercial/Industrial Use is Limited
 - Argosy Cruise Lines does not use drawspan
 - Three barge-mounted cranes use drawspan 3 to 5 times a year, but lower booms when crossing under I-90
 - City of Renton may use industrial barges in the future for land uses, but no current use exists

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Design Options and Issues for SR 520 on Lake

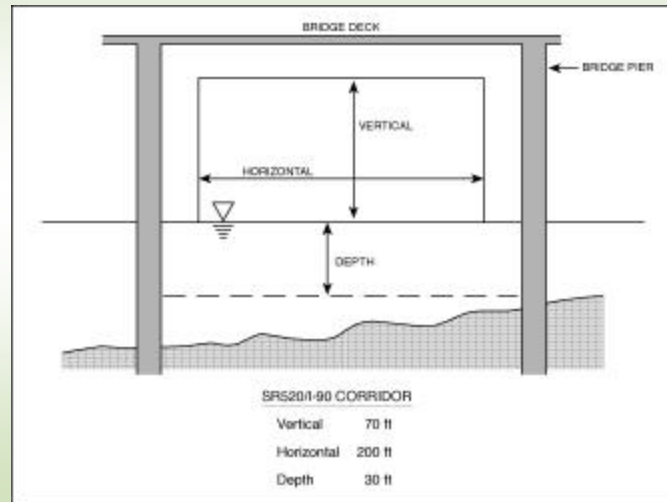
- Remove center draw span
 - Improves operational reliability
 - Would likely require increased navigational passage at high rise structure
- East or west high rise?
 - Trade-offs between engineering, environmental, constructability, cost and navigation issues will determine design choices
 - East high rise may be best option
 - Limits to navigation can likely be mitigated

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"Clearance envelope" for a high rise structure



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Options for Structures at Ship Canal/Union Bay

- If Ship Canal/Montlake Cut is crossed with a new structure
 - At least 146 foot horizontal clearance
 - Vertical clearance at least 70 feet
 - 30 foot draft

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Summary

- All SR 520 alternatives have similar bridge design options on the Lake
- Trade-offs for design option benefits and impacts will be examined in more detail in EIS
- Final approval for navigation changes rests with the U.S. Coast Guard